

REMARKS

Interview Summary

On May 5th, 2009, a telephonic interview was conducted between Examiner Cehic and Marc S. Hanish, Reg. No. 42,626. The Examiner is kindly thanked for granting this interview. The present amendment was discussed, and the Examiner indicated that the amendments to the independent claims would likely overcome the existing prior art. The Examiner requested that the amendment be filed with an RCE so that an additional search could be conducted. The Examiner also requested additional amendments to claims 4 and 24 to resolve an inconsistency, and to label claims 41-43 as withdrawn. Applicant agreed. The Examiner also agreed to telephone the Applicant with any ideas he might have as to allowable claim language to be added if, during the subsequent search, it was determined that the present claims were not allowable.

Substantive Remarks

The Examiner has indicated that claims 41-43 are directed to an invention that is independent or distinct from the invention originally claimed. The Examiner then goes on to state that claims 9-25, and 28-42 are withdrawn from consideration in light of this. Applicant assumes that this was a typographical error and that the Examiner meant to state that claims 41-43 are withdrawn. If this was not the Examiner's intent, Applicant respectfully requests that this issue be clarified in the next action.

Claims 1, 2, 4-6, 8-13, 17, 19-26, 28-33, 37, 39, 40 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims of U.S. Patent No. 7,177,329 B2. Claims 7, 18, 27, 38 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1, 2, 13-15 of U.S. Patent No. 7,177,329 B2 in view of Wolf et al. (U.S. 6,914,637 B1). A terminal disclaimer accompanies this response. Applicant therefore respectfully requests that the rejection be withdrawn.

Claims 1, 2, 9, 18, 19, 21-23, 29, 38, 39, 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ooshima et al. (U.S. 2002/0071055) (as evidenced by Zimmerman et al. U.S. 6,704,310 and Bruhnke et al. U.S. 2003/0174795) in view of Zimmerman et al. (U.S. 6,704,310).

The Examiner cites Ooshima's USB bus as evidence of a packet based display interface arranged to connect a video source directly to a video display device. The Examiner then uses Zimmerman's teaching of virtual USB pipes to teach the unidirectional main link and bidirectional auxiliary channel in claim 1. Applicant respectfully believes that the present invention is differentiable from a USB bus for the following reasons.

The prior art does not have a physically distinct unidirectional main link and bidirectional auxiliary channel

The present invention has (at least) two physically separate data transmission lines. Referring to FIG. 17 of the present invention (reproduced below), it can be seen that the main link lines (with pair 1, 2 being a first main link line, pair 4, 5 being a second main link line, and pair 7, 8 being a third main link line) are physically separate from the auxiliary channel line (pair 10,11). These are not virtual "pipes", they are actual "pipes." USB, on the other hand, has a single data "line" pair (while USB wires have a positive and negative data line these data lines operate in conjunction to achieve a single bidirectional link, therefore it would be impossible to call one of these data lines a main link and one an auxiliary channel). The claims have been amended to make this distinction more clear. Specifically, the prior art does not teach or suggest a bi-directional auxiliary channel line physically separate from a unidirectional main link line as stated in the amended claims.

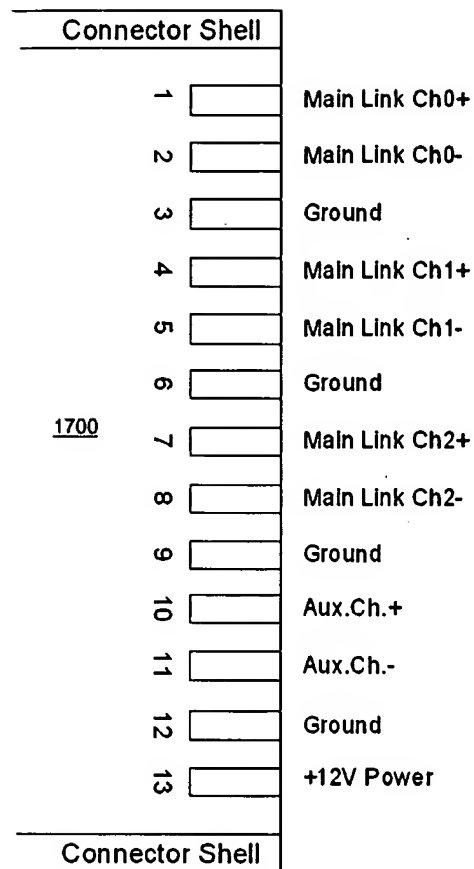


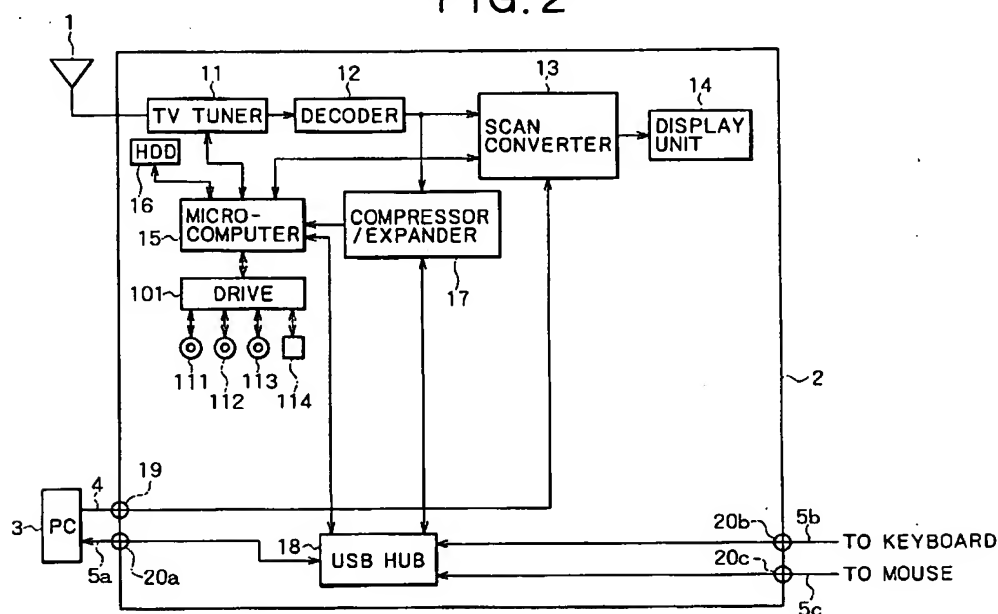
Fig. 17

The prior art teaches a clock line

The Examiner cites paragraph [0003] of Bruhnke as allegedly teaching that USB contains no clock line. However, that is not strictly accurate. What the paragraph actually states is that the “USB bus contains no *explicit* clock line.” The invention described in Ooshima, however, requires that an implicit clock line be contained in the video transmission over the USB line. Specifically, Ooshima discloses that PC 3, which the Examiner equates with a data source, can output video either via RGB line 4 or USB line 5a (see FIG. 2 reproduced below). RGB cables have clock signals, and scan converter 13 and display unit 14 rely on the clock signals in order to display the video properly. In other words, scan converter 13 is designed to handle video signals

that have clock signals, either directly from TV tuner/decode 11, 12, or from the PC 3 via RGB cable 4 or USB cable 5a. Indeed, the only difference between transmission over RGB cable 4 and USB cable 5a is that video transmitted over USB cable 5a is encoded/compressed for transmission over USB. Compressor/expander 17 then reverses the encoding and compression and passes scan converter 13 the same video signal that would be passed via RGB cable 4, clock line included.

FIG. 2



The prior art does not teach the packet based display interface arranged to connect a video source directly to a video display device

The USB cable in Ooshima is not directly connected between a video source and a video display device. Specifically, the cable runs through USB Hub 18 and then compressor/expander 17, prior to reaching display unit 14. The line between compressor/expander 17 and scan converter 13 is not USB as the line is shared with non-USB decoder 12. Likewise, the cable between scan converter 13 and display unit 14 is not USB. Ooshima's USB cable is not a display interface, it is just a data line that can sometimes be used to pass video information. By

not being directly connected to a video display device, the USB cable is distinguishable from the claimed display interface.

For the above reasons, Applicant respectfully submits that claim 1 is in condition for allowance.

Independent claims 21, 41, 42 and new claim 44 recite elements similar to that as described above with respect to claim 1. As such, Applicant respectfully submits that these claims are in condition for allowance for the same reasons as claim 1 described above.

Claims 4 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ooshima et al. (U.S. 2002/0071055) (as evidenced by Zimmerman et al. U.S. 6,704,310 and Bruhnke et al. U.S. 2003/0174795) and Zimmerman et al. (U.S. 6,704,310) as applied above to claim 1/21, further in view of Traversat et al. (U.S. 2007/0097885).

Claims 5-7, 25-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ooshima et al. (U.S. 2002/0071055) (as evidenced by Zimmerman et al. U.S. 6,704,310 and Bruhnke et al. U.S. 2003/0174795) and Zimmerman et al. (U.S. 6,704,310) as applied above to claim 2/22, further in view of Fuhrman (U.S. 5,745,837).

Claims 8, 10, 13, 28, 30, 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ooshima et al. (U.S. 2002/0071055) (as evidenced by Zimmerman et al. U.S. 6,704,310 and Bruhnke et al. U.S. 2003/0174795) and Zimmerman et al. (U.S. 6,704,310) as applied above to claim 1/21, further in view of Wolf et al. (U.S. 6,914,637 B1).

Claims 11, 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ooshima et al. (U.S. 2002/0071055) (as evidenced by Zimmerman et al. U.S. 6,704,310 and Bruhnke et al. U.S. 2003/0174795) and Zimmerman et al. (U.S. 6,704,310) as applied above to claim 1/21, further in view of Wolf et al. (U.S. 6,914,637 B1) and Klingman (U.S. 6,219,736).

Claims 12 and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ooshima et al. (U.S. 2002/0071055) (as evidenced by Zimmerman et al. U.S. 6,704,310 and Bruhnke et al. U.S. 2003/0174795) and Zimmerman et al. (U.S. 6,704,310) as applied above to claim 1/21, further in view of Yin (U.S. 2008/0175277).

Claims 20 and 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ooshima et al. (U.S. 2002/0071055) (as evidenced by Zimmerman et al. U.S. 6,704,310 and Bruhnke et al. U.S. 2003/0174795) and Zimmerman et al. (U.S. 6,704,310) as applied above to claim 19/39, further in view of Roberts (U.S. 4,796,203).

Dependent claims 2, 4-13, 17-20, 22-33, 37-40, and 43 are also patentably distinct from the cited references for at least the same reasons as those recited above for the independent claim, upon which they ultimately depend. These dependent claims recite additional limitations that

further distinguish these dependent claims from the cited references. For at least these reasons, claims 2, 4-13, 17-20, 22-33, 37-40, and 43 are not anticipated or made obvious by the prior art and/or the official notice outlined in the Office Action.

Applicant believes that all pending claims are allowable and respectfully requests a Notice of Allowance for this application from the Examiner. Should the Examiner believe that a telephone conference would expedite the prosecution of this application, the undersigned can be reached at the telephone number set out below.

Respectfully submitted,
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